in the fact that full-time units continued in all of these counties with the exception of Yolo, which has been on a part-time basis for several years but is once more operating with full-time facilities.

CALIFORNIA CITIES HAVING FULL-TIME PUBLIC HEALTH SERVICE

At present the following cities of California have health departments, not included with county units, whose staff members are employed full time:

City	*Population 1930 Census*
Los Angeles	1,254,179
Long Beach	144,140
Oakland	285,717
Pasadena	76,836
San Jose	58,090
Palo Alto	13,841
Sacramento	94,429
San Francisco	637,509
Berkeley	82,745
Santa Barbara	33,959
Total	2,681,445

NEW CALIFORNIA PUBLIC HEALTH LAWS

The chapter titles and numbers in the California Codes, for public health laws passed at the last session of the Legislature, and which became operative on August 27, 1937, are as follows:

Chapter 787. Venereal Disease Control

This Act establishes a Bureau of Venereal Diseases in the State Department of Public Health. It requires the State Board of Public Health to make rules and regulations for the prevention and control of venereal diseases, and charges the Board with the enforcement of such rules and regulations, particularly those relating to the quarantine of persons suspected of having, or those who may have venereal disease. The Act enables the State Department of Public Health to establish, maintain and subsidize clinics, dispensaries and prophylactic stations for the diagnosis, treatment, and prevention of venereal diseases. Under its provisions the Department may furnish treatment for cases in rural districts where adequate facilities for such treatment are not available. Local health officers are required to exert every effort to learn of the existence of cases of infectious venereal diseases, to investigate all cases that are not subject to proper control measures, to ascertain so far as possible all sources of infection and to take reasonably necessary measures to prevent the transmission of infection.

Diseased persons are required to comply with all State rules and regulations and to give all information required by the Act, and must submit to approved examination to determine the condition of the disease in the individual patient. Patients who discontinue control measures required by the Act and who fail to comply with the requirements for treatment must be reported by the individual or organization providing such treatment. Violations of the Act constitute misdemeanors. It is specified that nothing in the Act shall be construed to interfere with the freedom of any adherent of a religious sect which depends upon prayer for healing, except that the rules and regulations pertaining to reporting and quarantine must be observed.

Chapter 804. Clinical Laboratories

This Act repeals Chapter 638, Statutes of 1935, and provides that after January 1, 1938, each clinical laboratory must be under the immediate supervision and direction of a licensed clinical laboratory technologist, or by the holder of an unrevoked physician's and surgeon's certificate. Every technologist making tests in bacteriology, biochemistry, serology and parasitology, must hold a certificate as a qualified technician in the subject or subjects concerned with the test, as issued by the State Board of Public Health. Definitions are established for clinical laboratory technologists and clinical laboratory technicians. It provides further that after January 1, 1938, all clinical laboratory technologists or technicians must have certificates issued by the State Board of Public Health. Clinical laboratories operated by nonprofit hospitals, by the State or Federal Government, are exempt from the provisions of the Act. Provision is made for the collection of fees from applicants for certificates, which are paid into a fund to be known as the clinical laboratory fund. The State Board of Public Health is charged with making regulations for the conduct of the clinical laboratories and their enforcement.

Chapter 49. State Board of Public Health

This Act provides for the appointment of an eighth member of the State Board of Public Health, who should be a duly licensed and practicing dentist of this State.

Chapter 530. Sanitation of Trailer Coaches

This Act defines a trailer coach, trailer camp and camp site. It provides, further, for the issuance of permits to applicants who desire to operate or construct trailer camps. Such permits are issued by the Division of Immigration and Housing of the Department of Industrial Relations. Specific requirements are made to cover the following: caretaker, grading and drainage, cleanliness, water supply, sewage disposal, garbage and rubbish disposal, and other matters pertaining to general sanitation. The law provides, further, that no trailer coach shall park overnight within twenty feet of the traveled portions of a public highway. This section of the Act shall be enforced by the California Highway Patrol. The provisions of the Act do not apply to any supervised public park or camp ground owned or operated by the Federal Government, the State of California or any of its agencies, or by any political subdivision or municipality.

Chapter 882. Nonprofit Hospital

This Act adds sections to the Insurance Code, pertaining to nonprofit hospital service. In addition to certain requirements by the State Commissioner of Insurance, it is established that no nonprofit hospital service plan shall be operated by any corporation subject to the provisions of the Act, without first having obtained a certificate of approval from the State Department of Public Health. No such certificate can be issued until the applicant has established that the hospitals wherein subscribers to the service are to be hospitalized shall possess adequate physical facilities, mechanical equipment and personnel for care of patients. The department is authorized to make inspections of such hospital premises and receive payment of registration fees not to exceed twenty-five cents per bed, based upon the daily average number of beds, but in no event less than $15 per hospital. The department is authorized to hold hearings in order to determine whether or not required hospital standards of service are maintained. Provision is also made for revoking certificates of approval for just cause. The State Commissioner of Insurance shall not issue his certificate of authority to establish or operate a nonprofit hospital service plan until certificates of approval have been issued by the State Department of Public Health.

Chapter 359. Food Sanitation

Under this Act, three new sections are added to the Food Sanitation Act of 1909. The first makes it unlawful to sell at retail jams, jellies, preserves, marmalades, peanut butter, horseradish, mayonnaise or salad dressings other than in closed containers approved by the State Board of Public Health. When any other disposition of such foods is conducive to contamination by flies, insects, dust, and dirt, except when sold in bulk for manufacturing products.

The second section makes illegal the use or sale of second-hand bottles, glass or crockery food containers used in the manufacture, production, or packing for sale of a food, drug, or liquor except by firms licensed by the California State Board of Public Health to sell such bottles. The Board shall require evidence that the applicant is properly equipped to sterilize such containers. It is specified that such container shall be cleaned and sterilized by soaking in a hot, caustic solution of not less than 120 degrees Fahrenheit, for a period of not less than five minutes and then thoroughly rinsed in pure water.

The third new section prohibits the use of food containers manufactured from second-hand tin plate, to be used for packing of hermetically sealed canned food products for human consumption, unless such plate has been cleansed and sterilized by being thoroughly immersed in the boiling water and then dried on hot rolls or by the use of heated air.

Chapter 609. Physical Examination of School Pupils

A new article is added to the School Code, by which the county superintendent of schools is authorized to employ nurses to supervise the health of pupils in the schools of

elementary districts not employing a nurse as a physical inspector. Such nurses must possess the required credentials and shall perform such duties as are prescribed by the county superintendent of schools. They shall not examine any pupil without the written consent of the parent or guardian.

Chapter 190. Tests for Hearing and Sight

A new section is added to the School Code which enables school districts to provide for the testing of sight and hearing of each pupil enrolled in the schools of the district. Such tests shall be given only by duly qualified physical inspectors or by contract with a duly authorized agency. Necessary equipment may be purchased or rented. The State Board of Education, under the provisions of this Act, may establish in one or more of the State colleges courses for giving adequate instruction in methods of testing sight and hearing of the public school pupils.

Chapter 866. Tomatoes

Section 4 of the Pure Foods Act is amended so as to permit the artificial coloring of tomatoes for shipment outside of the State.

Chapter 709. Egg Standardization

The Agricultural Code is amended so as to give the State Department of Public Health jurisdiction to enforce the specified legal standards for eggs.

Chapter 777. Egg Products

This Act amends the Agricultural Code so as to require all importers and wholesale distributors of egg products imported into California from without the United States to furnish the State Department of Public Health, within five days after receipt of egg products, a statement showing quantity and kind of egg products received, type of container and place where stored, and within five days after any sale to furnish a statement showing to whom such egg products are sold.

Another section requires public warehouses to keep a record and furnish to the State Department of Public Health at the end of each month a statement of all foreign imported egg products received during the month. The Act specifies, also, that egg products packed in drums or tin containers shall be sold only in new containers. It provides, also, that food products in the manufacture of which egg products are used which violate the provisions of the Act are public nuisances and shall be moved from place to place only under the direction of a proper enforcing officer.

LOOKING AHEAD IN PREVENTIVE MEDICINE*

I bring you today a prediction of the future of medicine. The prediction comes from nine of the wise men of medicine. The prediction comes at a good time, just one year short of your one hundredth anniversary, for most of the advances on which the forecast rests were made during that one hundred years, and you were part of some of them.

The first man was Dr. Simon Flexner of the Rockefeller Institute for Medical Research. He said:

"I never give interviews."

He did not break this rule. That is, he gave me no words of his own. But he led me to the library and there marked publications for me to read. Some were medical. Others dealt with scientific discoveries which have stirred the imagination of the world.

One was the quantum theory, which takes account of the things which are not directly observable. Others were relativity, the mysterious expanding nature of the universe, and the new ideas of geological time which make the age of the earth three billion years.

There were also the discovery of isotopes, that is, the variability of atoms. As a result of that discovery the ninety-two chemical elements of the earth, which have been the basis of all the medicines of the past, have been multiplied into 250 variations. Every one is potentially useful for medicine.

Some, like the hydrogen isotope, which makes heavy water, are already in use to enable medical men to trace invisible trails of the living processes in the human body.

There was artificial radio activity. This alone has already produced something like forty new kinds of radio activity. There were discoveries in low temperatures down almost to absolute zero. Although absolute zero means universal death of all energy, yet these discoveries have shown that this absolute death is probably impossible.

There was the astounding evidence of high temperature in the stratosphere, the rise of radio and the new air mass method of weather forecasting. There was all the new work in radiation. This included thermionic valves and the sensitive instruments with whose aid medical pioneers are beginning to identify the electrical action of the human brain.

There was man's ancestry as found by evolution. Here were new conceptions of the dignity of man's long past, and hints of the origins of human traits with which every medical man and every philosopher has to deal.

In the more strictly medical field was the discovery of vitamins, and the work on diet and deficiency diseases. There were the discoveries of bacteria, of bacteriophage and of the viruses. Already the virus discoveries have proved that in the presence of life, nonliving substances can organize themselves into units that have every attribute of independently living things. Some of these units have been identified as the cause of disease. They suggest the solution of problems which have completely baffled both science and medicine.

Other discoveries were the measurement of heat production by muscles and by nerves and the therapeutic application of x-rays and gamma-rays. There were genetics, nuclear structure, chromosomes, chemical catalysis and adsorption.

The last writing that Doctor Flexner designated explained all these that went before. It was an address by one of the great men of all time in medicine, the late Dr. William Henry Welch. Its title was "The Interdependence of Medicine and the other Sciences of Nature." It painted the picture of the medical man reaching out for aid to all the other sciences. It showed him traveling in cycles, sometimes to one field of science, sometimes to another, but always returning in the end to the advice of Hippocrates to assay the facts in his own clinical field.

Next I wrote to eight other men famous in medicine. I asked them to name the fields where the greatest medical interest and progress may be expected.

They named ten. Two ranked first with five votes each. Nutrition and chemistry. Many scientists believe that nutrition holds the most quickly applicable hope of longer life with full vigor almost to the end. Chemistry has given medicine hundreds of useful preparations, but chemists foresee hundreds of thousands of others which now do not even exist.

Second place was given to the endocrine glands, the internal secretions which directly regulate the human body and probably account for sanity itself. Third came immunology and psychology. In the fourth place were three sciences, physics, bacteriology and the very new science of group research. In the fifth place were allergy and physiology.

Sir Frederick G. Banting, discoverer of insulin, wrote: "I look forward to the greatest development being made in the application of physics and chemistry—particularly organic chemistry—to the problems of medicine."

Significant, he pointed out, is the fact that organic chemistry has supplied most of the contributions in recent years to nutrition, to endocrine glands and immunology. Even in physiological medicine, he said, the great advance of the future is likely to come from understanding the chemical processes in the activity of nerve cells.

The co-discoverer of insulin, Professor C. H. Best, likewise stressed organic chemistry. He predicted it would be applied to the gland products in medicine to a degree never before possible.

Doctor Best also emphasized physics and nutrition. He credited much of the interest in nutrition to the necessity of planning relief diets.

Old time medical pictures show the doctor measuring his medicine drop by drop. Today he measures the invisible, and the new method is called quantitation.

This method is seen as one of the important future steps of medicine by Dr. Frank Charles Mann of the Mayo Clinic.

* Excerpts from Commencement Address, Medical College of Virginia, June 1, 1937. By Howard W. Blakeslee, Associated Press Science Editor.